RFCA Stakeholder Focus Group
Meeting Agenda

When: **January 3, 2001 3:30 - 6:30 p.m.**

Where: **Broomfield Municipal Hall, Bal Swan and Zang's Spur Rooms**

3:30-3:40	Introductions, Agenda Review, 12/13 Meeting Minutes Review
3:40-3:50	RSAL Schedule Review Update
3:50-4:20	RSAL Peer Review Update and Discussion
4:20-5:00	New Science Briefing and Discussion
5:00-5:15	Break
5:15-6:15	Industrial Area Sampling and Analysis Plan - Briefing and Discussion
6:15-6:30	Set Future Agendas and Review Meeting
6:30	Adjourn

RFCA Stakeholder Focus Group
Attachment A

Title:	Agenda for January 3, 2001 Focus Group Meeting
Date:	December 26, 2000
Author:	C. Reed Hodgin AlphaTRAC, Inc.
Phone Number:	(303) 428-5670
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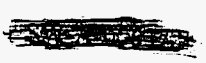

NAME	ORGANIZATION / COMPANY
Christine Bennett	AlphaTRAC, Inc.
Ken Brakken	DOE, RFFO
Lane Butler	Kaiser-Hill Company, LLC
Kimberly Chleboun	RFCLOG
John Ciolek	AlphaTRAC, Inc.
John Corsi	Kaiser-Hill Company, LLC
Robert Darr	Kaiser-Hill, Ltd
Gerald DePoorter	RFCAB
Shirley Garcia	City of Broomfield
Joe Goldfield	RFSALOP
Steve Gunderson	CDPHE
Mary Harlow	City of Westminster
Jerry Henderson	RFCAB
Reed Hodgin	AlphaTRAC, Inc.
Victor Holm	RFCAB
Ken Korkia	RFCAB
Joe Legare	DOE
Ann Lockhart	CDPHE
John Marler	RFCLOG
Tom Marshall	Rocky Mountain Peace and Justice Center
Dan Miller	Natural Resources and Environment Section Colorado Department of Law
LeRoy Moore	RMPJC
Bob Nininger	Kaiser-Hill Company, LLC
Karen Reed	EPA
Kathy Schnoor	City of Broomfield
Joel Selbin	
Dave Shelton	Kaiser-Hill Company, LLC
Carl Spreng	CDPHE
Honorable Hank Stovall	City of Broomfield
George Vancil	City of Arvada

RFCA STAKEHOLDER FOCUS GROUP
JANUARY 1, 2001 MEETING PARTICIPANT'S LIST

RFCA Stakeholder Focus Group
January 3, 2001
Meeting Minutes

INTRODUCTION AND ADMINISTRATIVE

A participants list for the January 3, 2001 Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group meeting is included in this report as Appendix A.

Reed Hodgin of AlphaTRAC, Inc., meeting facilitator, reviewed the purpose of the RFCA Focus Group.

The meeting agenda included:

- RSAL Schedule Review Update
- RSAL Peer Review Update and Discussion
- New Science Briefing and Discussion
- Industrial Area Sampling and Analysis Plan - Briefing and Discussion

Reed asked the Focus Group if there were any changes or additions / corrections to the December 13, 2000 meeting minutes. One correction was noted:

- On page 3, the text reads 10^{-4} where it should read 10^{-6}.

A Focus Group member asked that issues and questions be kept track of, then listed in future minutes as a separate item, with corresponding report / answer attached to the meeting minutes. AlphaTRAC, Inc. stated they have a database in progress, and will update that and include as part of the packet in the meeting minutes.

Members of the Focus Group asked that the RFCA Agencies resume their periodic report-backs to the focus group on how the group's input is being used in cleanup decision-making.

Joe Goldfield asked for a status on DOE responses to the papers he had submitted several months previously. Reed stated he had informed DOE of Joe's request and referred Joe to DOE for further input.

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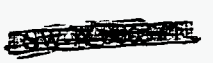


RSAL SCHEDULE REVIEW UPDATE

The RFCA agencies gave updates on the tasks of the RSALs review reports.

Task One: Regulatory Analysis

- The schedule for draft 2 of the regulatory analysis schedule has slipped by approximately two weeks
- The second draft will clearly articulate risk and dose approaches

Task Two: Model Evaluation

- The comments on draft 1 of the Model Evaluation report were not extensive and the revision of this report is straight-forward
- The author is on path to second draft within a few days
- An issue to be tracked is NRC's validation / review of the RESRAD Version 6.0

Task Three: Parameter Evaluation

- A detailed schedule for Task Three will be available after the RSAL Working Group meeting of January 4, 2001

Task Four: New Science

- The results from the wind tunnel experiments of resuspension after Buffer Zone fires are now available and a preliminary briefing will be presented tonight

Task Five: Cleanup levels at other Sites

- There is no change in the status of this task

A member of the focus group asked if progress was being made on the RSAL review or if the schedule slips were an indication of lack of progress. DOE stated that substantial progress was being made against a very aggressive schedule. EPA noted that the slip in

the schedule for the Regulatory Analysis report would not affect the critical path of the project. CDPHE indicated that the work was moving along. A member of the focus group emphasized the importance of staying on schedule in order to meet the schedule for the peer reviewers.

The focus group asked for the source code for RESRAD 6.0. DOE agreed to obtain and provide the source code.

It was noted that differences between RESRAD versions were discussed in the RAC report. The focus group asked for a reference to the location of that discussion in the RARC report. Victor Holm agreed to provide the indicated reference.

A member of the focus group indicated that knowing the sensitivity of the modeling results to differences between RESRAD versions could be as or more important than knowing the differences themselves. It was suggested that RAC's experts be brought in to discuss this topic with the focus group. The agencies replied that the sensitivity of model results to model differences would be included in the RSAL review documentation.

A member of the focus group asked for clarification on the current schedule for the RSAL Review reports. The agencies replied:

- Draft 2 of Task 1 report: Two weeks
- Draft 2 of Task 2 report: Mid-January
- Draft 1 of Task 3 report: One to two months, but may slip
- Draft 1 of Task 4 report: A new primary investigator has been assigned to write report

A member of the focus group asked who is controlling the Task 3 (Parameter Evaluation) Working Group. DOE responded that the group is being led by EPA and Kaiser-Hill, with some support from DOE.

RSAL PEER REVIEW UPDATE AND DISCUSSION

Reed introduced the RSAL Peer Review Update and Discussion with the following objectives for the session:

- Summarize status of peer reviewer selection
- Determine key questions for peer review of Task 1 (Regulatory Analysis) report
- Determine topics for first workshop
- Set the Date for first workshop.

Summary of Peer Review Selection Status

Reed updated the group on the status of the Peer Review process. He indicated that he had made contact with and interviewed candidate peer reviewers for Task 1 – Regulatory Analysis. Two candidates have agreed to participate and find the terms and honoraria acceptable. AlphaTRAC, Inc. is now working to establish subcontracts with the selected peer reviewers.

Key Questions for Peer Review of Task 1 (Regulatory Analysis) Report

The next topic addressed was key questions to be submitted to the peer reviewers for the Task 1 (Regulatory Analysis) report. Reed indicated that eleven peer review questions had been received from members of the focus group and included in the packets for this meeting:

- Is the NRC rule, which was intended to cover facilities quite different from Rocky Flats (e.g. primarily facilities using radionuclides with short half lives), unequivocally an ARAR?

- Is it appropriate to apply ARARs piecemeal?

- Do the regulations offer guidance on how to account for catastrophic events?

- Has CERCLA cleanup been addressed in federal court? Specifically, is there any judicial precedent in which regulators have been forced to consider exposure scenarios more conservative those deemed to be "reasonably anticipated?"

- What does the National Contingency Plan require re. cleanup of CERCLA sites? More specifically, what does it require re. risk?

- CERCLA risk range, EPA 15/85 mrem/y, and NRC 25/100 mrem/y: Do the dose levels proposed by EPA in their withdrawn rule (used in calculating the 1996 RSALs) and those recently adopted by NRC correspond to CERCLA?

- To be assured of compliance with CERCLA, would it be better to begin with the CERCLA risk range (10^{-4} to 10^{-6}) and back calculate to an RSAL that meets the CERCLA risk range?

- I believe the Agencies propose to conduct a risk-based assessment and a dose-based assessment simultaneously; will not convert dose to risk; and will apply the ALARA analysis after the RSAL determination has been made to determine whether it is feasible to cleanup to more stringent levels. I interpret this to mean that the RSAL value will be protective within the 1 in 10,000 cancer risk and the 100 mrem dose/ year (without institutional controls). The ALARA analysis will then be used to determine whether it is economically feasible to reach the 1 in 1,000,000 cancer risk and/or the 25 mrem maximum dose in a year (without institutional controls). If I am correct, I expect the peer reviewers to examine carefully whether this is acceptable under CERCLA and EPA Headquarters.

- Define the process of incorporating ARARs, specifically the NRC rule, into the decision making process for determining clean-up standards for a CERCLA remediation site. If possible, generate a decision tree to include decision points identifying regulatory drivers with the key decision parameters that analyzes the implementation process and the effectiveness of choosing a standard which sets good controls to protect human health and the environment.

- Identify any guidance or other documents that may provide support to the decision making process associated with risk vs. dose.

- Identify how long-term stewardship relates to the process of selecting a standard that is to be cost-effective and utilizes permanent solutions and/or alternative treatment technologies or resource recovery technologies to determine clean-up standards.

He asked the group if the were any additional peer review questions to be considered. Three further questions were offered:

- Have the regulators done a good job of identifying court cases that set precedents?

- Evaluate the criteria used for setting limits on the effects of radionuclides on exposed citizens; should the dose be 15 mRem, 25 mRem, or whatever?

- What is the validity of the risk factors developed for the various health doses measured in mRem?

Reed indicated that perhaps four or five key questions could be forwarded to the reviewers, given the level of effort that could be expected in the review. He told the focus group that there were two options:

- Select or craft four or five key questions from those submitted and ask the peer reviewers to respond to them specifically, or
- Submit all of the questions and invite the peer reviewers to respond to those they wish.

Reed indicated that the questions should be focused on review of the draft Regulatory Analysis report, rather than asking for analysis of new issues. Any requests for additional regulatory analysis should be submitted to, and addressed by, the RFCA Agencies.

A focus group member noted that many of the questions proposed for the peer reviewers might actually be answered in the next version of the Regulatory Analysis report. After further discussion, the group decided on a new approach to submitting questions for the peer review:

- Draft 2 of the Regulatory Analysis report will be submitted to the focus group and to the peer reviewers as soon as it is ready (expected in approximately 2 weeks),

- The peer reviewers will be notified that specific questions will be submitted to them by a specific date,

- The members of the focus group will develop suggested peer review questions (which may include some of the ones already submitted) and share the questions with each other,

- At the next focus group meeting following issuance of the draft Regulatory Analysis report, the focus group will choose a set of questions to submit to the peer reviewers,

- The "clock" for the peer review will begin ticking when the peer reviewers receive the review questions from the focus group.

Regulatory Analysis Discussion

During the discussion of the Regulatory Analysis Peer Review, the focus group engaged in a discussion on the regulatory framework for RSAL development, with a focus on the land use scenarios being developed as part of Draft 2 of the Regulatory Analysis Report. The group decided to defer the presentation and discussion of the New Science findings until the next focus group meeting in order to make room on the agenda for the expanded discussion. It was requested that such agenda changes be made as early as possible in the future, so that deferred presenters could leave the meeting. Reed agreed to make this part of the process for future meetings.

A member of the focus group asked if the RFCA agencies were setting a precedent by using the NRC rule as an ARAR. The agencies responded that a precedent was not being set – for instance, both Brookhaven National Laboratory and the Oak Ridge National Laboratory had already used the NRC rule in their cleanups.

The EPA indicated that the regulatory analysis would involve modeling evaluations of four land use scenarios against four risk / dose thresholds. Thus, sixteen candidate RSAL values would result and be considered together to develop a final number. CDPHE indicated that the four risk / dose thresholds being considered are:

- 10^{-4} risk,
- 10^{-5} risk,
- 10^{-6} risk, and
- 25 mrem dose.

CDHPE also indicated that the four land use scenarios being considered are:

- Wildlife refuge worker,
- Commercial user,
- Open space user,
- Unrestricted user.

The RFCA Agencies were asked if the resident rancher scenario was included in the evaluation and if it would be considered as a basis for the RSAL or as a target for ALARA. CDPHE and EPA answered that the Unrestricted user scenario had not yet been fully defined and that the resident rancher scenario was a possibility for that category. CDPHE confirmed that, as had been stated in previous focus group meetings, the RFCA Agencies were planning to apply the unrestricted use scenario as a target for ALARA rather than a candidate for the RSAL number itself.

LM: Steve, you made a revealing speech a while ago in which he told us the scenarios that the agencies are going to consider and consider according to dose and risk and so on. I would suggest that you add the most conservative scenario, the one developed by the Soil Action Level Oversight Panel and utilized by RAC in their work which would be the resident rancher. I didn't hear that mentioned, and I think that ought to be included along with the other 4 scenarios.

TR: We already have that number.

LM: You are calculating soil action levels right now according to your own methods and we're going through the whole process again. I don't want you to overlook that one.

VH: I think that's one of the reason's this Focus Group should put it on it's agenda, talking about the scenarios.

LM: Obviously the agency people are talking about it and making decisions.

VH: That's why I suggested the community may want to have some input.

SG: I can't get into details on answering your question. We have to flush out the unrestricted scenario; what that looks like, what's reasonable, and that will include any of the RAC use as the unrestricted scenario, the resident rancher. We're going to have look at what our unrestricted scenario looks like, and we're going to have to look at both the child and the adult. We envision basically that broad thing; we're going to look at the scenarios and we're going to look at 25 mrem, 10-4, 10-5, and 10-6, and then we're going to bring it here. Clearly, if the 25 mrem numbers fall outside 10-4, they're completely off the table. Then we're going to bring it here and we're going to talk about it.

LM: That's a little different than what you said earlier.

JL: How so?

LM: He's supposed to provide four scenarios earlier, and I didn't hear ...

SG: They would be a wildlife refuge worker, which we think is possibly going to be the most protective anticipated land use. In a commercial scenario, like someone working in the Industrial Area. An open space user (a citizen entering the site is an open space user). And an unrestricted use scenario that needs to be flushed out.

Last time I thought you'd said that an unrestricted scenario would be used for ALARA, not for setting the site ? so.

That's what we talked about here.

JL: But it raises a good issue; why did we decide to do it this way? One reason, if you look at the numbers access, we don't know if 25 mrem or the NRC rule as an ARAR is going to put us in the risk range or not. So we can calculate that and we can calculate the three numbers in the risk range, because we don't know yet where in the risk range we're going to fall when we're done. We're required to be in the range, but we haven't developed a process yet for making that decision--what's the right number for this community and the cleanup that we have. We can see how that plays out. What are we talking about; what's the real difference? And on the same thing with the scenarios, we think that there's a reasonable change that the Fish and Wildlife service or the refuge worker may not be the service worker is certainly one of the likely

TM: To what degree is this group 1) going to consider what the scenario is, and 2) to what degree does that determine the scenario the agencies will use in setting the RSAL. What I'm hearing from a number of the agency representatives is that they essentially think they have picked the scenario that will be used to set the RSAL and that's going to be the wildlife worker. If that's the case, it makes me think that this is a waste of time. I'm wondering to what degree does this group have real input on that scenario.

TR: You haven't been to many of these meetings the last few months. We've talked about this whole concept of how we were establishing a regulatory framework, how we were going to use the ALARA process on top of an RSAL based on anticipated land use. We've been talking about that for the last two months.

TM: I've been to those meetings and heard that. I have not heard this group say that's what they wanted to see happen. Have you?

TR: I haven't heard frankly a whole lot of adverse reaction when we provided that. It doesn't seem to me that you've brought this question to us in a clear form. I've been waiting to see the reports come out so that we can give you some input.

TR: You'll see that report next week.

TM: I'd really like to get an answer. I'd like to know how much input we have in this.

VH: I'd like to say one thing. Exactly what your question was is why I volunteered to try to get some input into the working group from the community and I got my

head cut off for it. I think it is something we ought to discuss. I don't know whether we're going to have any input. It's better than just sitting here having a few people giving their opinions. We're not a decision making group, but I don't see why we can't come up with some straw votes and give our feelings.

TR: I'd like to make a couple of points which I think are relevant to this discussion. Number one, we haven't made any decisions yet. That's the purpose of coming up with the RSAL. Even after we come up with the RSALs, that's not necessarily any individual cleanup is going to be, because when you apply the ALARA ?, it's kind of a cost-benefit analysis that you can only accomplish in the context of the particular cleanup proposal you weight different alternatives. When we ? to do the 903 Pad and we have an RSAL, we were going to at least analyze is it reasonable to get more stringent than that? We can't do it in abstract. You have to have a particular ? before. So that's when a decision gets made as to what the cleanup is going to be in the 903 pad.

The second point is why do we keep talking about the reasonably anticipated future user? The reason we keep talking about the reasonably anticipated future user is that CERCLA tells us to do it. At least an example if it's not in ? itself.

KK: Has CERCLA defined reasonable?

TR: There's a lot of guidance on how to choose it.

TM: My sense is that if the State and the EPA were willing to defend the resident rancher, it would probably stand. I think a lot of this is political.

TR: I think the reason we have ? is because we've been hammered by Congress.

The RSAL is not a cleanup level, but it does indicate a level that we think needs to be protected to.

And under EPA policy we do look at the reasonably anticipated future land use for the site. That's a complex issue here because we don't have legislation telling us what the future use is going to be. We have to get with the normal DOE excess surface property disposition.

RH: Our process here is for the agencies to bring their thinking to you early in their process, tell you what it is, get your feedback, use that feedback in coming up with

revisions, which is not a vote by this group, use your feedback, give you what they did and tell you why they did it. That's our process. I urge you not to take axes to these people because they brought you their thinking early.

Joel Selbin: Finally someone used the terms "cost benefit analysis." It's not the agencies here I feel who's our enemy, it's the Congress in a sense. It's the law, and it seems to me since we are the citizens of this country and we are the country, we have a right to try to effect some change where it is necessary. It seems to me that maybe the reason the law is set that way has to do with the almighty dollar as almost everything else does. In a cost benefit analysis, we always ask the question, what is it going to cost if we do such and such. I've said this many times in the RSAL..., we never ask the question what is it going to cost if we don't do this? The old bumper sticker... that's what we're doing here. We're going to ask a question, "how much does it cost to clean this thing up to a certain level for an antcipated scenario," not the most protective or the long-term. Long after we're gone... Look, we're not just here to protect our own asses or those of our children and grandchildren, we're here to protect the asses of people that ain't been born yet.

It seems that if we're going to do this kind of analysis, and somewhere along the line that big elephant that grew all the time has to be recognized, money, how much it's going to cost, we have to then also do the anlaysis of how many people are going to die in thw future generations and weight that against the cost of proper cleanup, because we have to ask how much is it going to cost if we don't do it right? We never want to do that. It's not the fault of the three agencies here, it's the fault, ultimately, of the Congress and the laws, and I think we ought to say hey, we're a community here and we want to protect this community a long time into the future and this is what's necessary and let's try to effect that. Instead of trying to conform to how much money is it going to cost, and if it's too much money, we won't be as restricted, we won't be as protected of future generations.

Some members of the focus group expressed concern and displeasure that the resident rancher scenario was not being used to drive the RSAL value. One felt that the work of the RSALs Working Group was being invalidated. Another felt that the most conservative use of the land that could be conceived of (resident rancher) should be used as the basis for the RSAL in order to best protect future generations. The EPA replied that Congress had given a clear response to EPA in previous CERCLA cleanups that it would not approve funding for cleanups to unrestricted use. This is why the RFCA agencies are planning toward a cleanup to "anticipated use" with unrestricted use as an ALARA goal.

The focus group agreed to continue their discussion of land use scenarios at the next focus group meeting. EPA agreed to present the approach from the revised regulatory analysis report as a kickoff for the discussion.

Topics for RSAL Review Workshops

The focus group held a brief discussion on the topics for the upcoming RSAL Review Workshops. A number of workshop topics had been suggested, including the RESRAD model, input parameters, sensitivity analysis, and dose factors / risk curves. It was suggested that objectives should be established for the workshops before deciding the specific topics. The group decided to share ideas for workshop objectives offline and continue the discussion at the next focus group meeting.

Topics for the Modeling Workshop

Reed opened the discussion by stating that a large number of suggested topics had been submitted for the first (Modeling) workshop, all centered on the RESRAD model. He indicated that it was clear that the focus of the workshop would be RESRAD.

He further indicated that the suggestions could be summarized as seven topics:

- Basis for RESRAD
- Application of RESRAD in RAC study
- Changes to RESRAD and effects
- Risk / probability in RESRAD 6.0
- Parameters chosen for RESRAD
- Applicability to RFETS
- Ground and surface water in RESRAD.

The group discussed whether the workshop should be oriented toward a technical audience or toward the general public. The possibility of holding two sessions – a

technical session during the day and a public session in the evening was considered. The group agreed to continue their discussion at the next focus group meeting.

Date for the First Workshop

Reed indicated that March 2001 would probably be the earliest that the first workshop could be held from a planning and logistics perspective. The group decided to set a date for the workshop when they had decided on format and content. The availability of presenters from RAC and Argonne National Laboratory would be a consideration.

ANNOUNCEMENT

Joe Legare, DOE, made an announcement that Ken Brakken will be replacing Paul Hartmann as the DOE contact for the RFCA Focus Group.

SITE CHARACTERIZATION AND REMEDIATION STRATEGY

Reed introduced the presentation by setting objectives for the session:

- Describe the overall strategy for characterization and remediation,
- Summarize the elements of the IASAP,
- Show how RFETS will ensure that no contamination is left behind.

Lane Butler then gave a presentation on the site characterization and remediation strategy, with a focus on the Industrial Area Sampling and Analysis Plan (IASAP) (see Appendix for a copy of the presentation materials). His presentation addressed the following topics:

- Characterization approach,
- Remediation approach,
- Subcontract strategy,
- Schedule, and
- Current status.

A brief discussion session followed the presentation.

A member of the focus group asked about the status of the IASAP. CDPHE indicated that the agency had submitted comments before Christmas and that it was expected that the plan would be approved during the next week.

A member of the focus group asked about calibration of the field samples. Lane summarized the quality assurance program for field sampling and for laboratory analysis.

A member of the focus group asked about definition of groundwater plumes. Lane answered that groundwater was not included in the IASAP, but that the existing network of wells would be used to define groundwater plumes, with additional wells added if needed.

A member of the focus group asked how contamination would be addressed under foundation pads. Lane answered that pads would be pulled up for certain buildings where under-building contamination was expected (such as Building 771). At other buildings sampling would be conducted through the pads to determine if contamination exists or not.

AGENDA ITEMS FOR NEXT MEETING

The focus group agreed on the following topics for the January 17, 2001 meeting:

- New Science outline and wind tunnel detail discussion
- Model workshop objectives and topics
- Land use scenarios discussion

ADJOURN

The meeting was adjourned at 6:30 p.m.

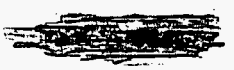
Christine reminded the Focus Group that the January 17, 2001 RFCA Focus Group will be held at the Arvada City Hall, 3:30 to 6:30 p.m.

SUMMARY OF ACTIONS AND COMMITMENTS

- The focus group asked for the source code for RESRAD 6.0. DOE agreed to obtain and provide the source code.
- Location in RAC report where RESRAD code differences are addressed
- Issues / questions raised from each meeting listed in the meeting minutes
- New schedule for RSAL review with changes bolded
- Formal report on agency feedback regarding Focus Group input

RFCA Stakeholder Focus Group
January 3, 2001 Meeting Participant's List

NAME		ORGANIZATION / COMPANY
Christine	Bennett	AlphaTRAC, Inc.
Ken	Brakken	DOE, RFFO
Lane	Butler	Kaiser-Hill Company, LLC
Kimberly	Chleboun	RFCLOG
John	Ciolek	AlphaTRAC, Inc.
John	Corsi	Kaiser-Hill Company, LLC
Robert	Darr	Kaiser-Hill, Ltd
Gerald	DePoorter	RFCAB
Shirley	Garcia	City of Broomfield
Joe	Goldfield	RFSALOP
Steve	Gunderson	CDPHE
Mary	Harlow	City of Westminster
Jerry	Henderson	RFCAB
Reed	Hodgin	AlphaTRAC, Inc.
Victor	Holm	RFCAB
Ken	Korkia	RFCAB
Joe	Legare	DOE
Ann	Lockhart	CDPHE
John	Marler	RFCLOG
Tom	Marshall	Rocky Mountain Peace and Justice Center
Dan	Miller	Natural Resources and Environment Section Colorado Department of Law
LeRoy	Moore	RMPJC
Bob	Nininger	Kaiser-Hill Company, LLC
Karen	Reed	EPA
Kathy	Schnoor	City of Broomfield
Joel	Selbin	
Dave	Shelton	Kaiser-Hill Company, LLC
Carl	Spreng	CDPHE
Honorable Hank	Stovall	City of Broomfield



George	Vancil	City of Arvada

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- Is the NRC rule, which was intended to cover facilities quite different from Rocky Flats (e.g. primarily facilities using radionuclides with short half lives), unequivocally an ARAR?

- Is it appropriate to apply ARARs piecemeal?

- Do the regulations offer guidance on how to account for catastrophic events?

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- Has CERCLA cleanup been addressed in federal court? Specifically, is there any judicial precedent in which regulators have been forced to consider exposure scenarios more conservative those deemed to be "reasonably anticipated?"

- What does the National Contingency Plan require re. cleanup of CERCLA sites? More specifically, what does it require re. risk?

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- CERCLA risk range, EPA 15/85 mrem/y, and NRC 25/100 mrem/y: Do the dose levels proposed by EPA in their withdrawn rule (used in calculating the 1996 RSALs) and those recently adopted by NRC correspond to CERCLA?

- To be assured of compliance with CERCLA, would it be better to begin with the CERCLA risk range (10 -4 to 10 -6) and back calculate to an RSAL that meets the CERCLA risk range?

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- ARARS: This aspect of CERCLA comes up because the draft EPA rule for cleanup of DOE sites used in setting the 1996 RSALs has been withdrawn and the recently adopted NRC rule on cleanup and decommissioning NRC sites is being considered by the agencies for setting the Rocky Flats RSALs. Is the NRC rule an ARAR -- that is, does it fit all the points of this provision?

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- I believe the Agencies propose to conduct a risk- based assessment and a dose-based assessment simultaneously; will not convert dose to risk; and will apply the ALARA analysis after the RSAL determination has been made to determine whether it is feasible to cleanup to more stringent levels. I interpret this to mean that the RSAL value will be protective within the 1 in 10,000 cancer risk and the 100 mrem dose/year (without institutional controls). The ALARA analysis will then be used to determine whether it is economically feasible to reach the 1 in 1,000,000 cancer risk and/or the 25 mrem maximum dose in a year (without institutional controls). If I am correct, I expect the peer reviewers to examine carefully whether this is acceptable under CERCLA and EPA Headquarters.

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- Define the process of incorporating ARARs, specifically the NRC rule, into the decision making process for determining clean-up standards for a CERCLA remediation site. If possible, generate a decision tree to include decision points identifying regulatory drivers with the key decision parameters that analyzes the implementation process and the effectiveness of choosing a standard which sets good controls to protect human health and the environment.

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- Identify any guidance or other documents that may provide support to the decision making process associated with risk vs. dose.

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  – An explanation of why the values were chosen for the parameters.

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- Review and determine applicability of using dose vs. risk in the model evaluation. Discuss the changes to ICRP and the evaluation process. Hopefully, resolve the issue of when to use dose or risk.

Activity 2: What date / time would you like to hold the first workshop?

- Several weeks before the final draft of the task 3 report goes to principals.

- Most times in Jan or Feb will work

- Early January with the possibility for a full day session for those that are interested. The workshop should be held in Building 60, RFETS.

Activity 2: What date / time would you like to hold the first workshop?

- It would be nice to have the workshop as soon as possible. It may be too late to have a workshop in February, but March would be acceptable to maintain the schedule. It may be to our advantage to have both workshops back to back if the presenters are going to be the same for both workshops. It would save money and keep us on schedule.

RSAL Peer Review Update and Discussion

Site Characterization and Remediation Strategy

RFCA Stakeholder Focus Group

January 3, 2001

Lane Butler

CLOSURE 2006

ROCKY FLATS CLOSURE PROJECT

KAISER-HILL

IA Strategy Elements

- Characterization approach
- Remediation approach
- Subcontract strategy

Characterization is Performed for Two Purposes

- To support remediation
- To support the Comprehensive Risk Assessment (CRA)
  - CRA measures residual risk at closure following completion of all remedial actions

Present Characterization Status

- Some surface data for IHSSs and white space
- Some IHSSs and most PACs have very limited data
- Subsurface data for Solar Ponds
- Limited data for UBCs
- Limited data for OPWL, NPWL, storm drains or sanitary sewer lines

Traditional RFETS Approach

- Prepare SAP for 1 or more IHSSs
- Take samples, send to laboratory
- Prepare characterization report
- Prepare a decision document
- Perform remediation
- Take confirmation samples, send to laboratory
- Receive data, prepare Closeout Report

New Sampling Approach for Remediation

- Group IHSSs
  - Reflects IA Strategy and baseline
- One SAP each for IA & BZ with annual addenda
- Use in-process sampling
- Sample and remediate UBCs in concert with D&D
- Use all qualified previous data
- Use field instruments for pre-remedial sampling and to guide remediation in real time (in-process)
- Send only post-remediation confirmation samples to lab
- Prepare Closeout Report annually

Streamlining Benefits

- Improved confidence in completeness of remedial action
- Better consistency for all sites
  - Safety, quality
- Focus on both soil remediation and the CRA
- Cost and schedule savings
  - Diminish reliance on analytical labs
  - Reduce document burden

Instrumentation Suite

- **Radionuclides**
  - **High Purity Germanium Detector**
- **Metals**
  - **X-ray Fluorescence**
  - **Beryllium -- Laser Induced Breakdown Spectroscopy, Inductively Coupled Plasma, Atomic Absorption Unit**
- **VOC/SVOC, pesticides**
  - **Gas Chromatography/Mass Spectrometry**
- **Field laboratory unit**

Statistical Approach

- **Geostatistical (Smart Sampling)**
  - **Existing data, contaminant distribution**
- **Standard Techniques**
  - **No data or limited data, process knowledge**
- **Biased (focused) Sampling**
  - **Limited or process knowledge, localized contamination**

Sampling Approach for the Confirmation and CRA

- Use existing qualified data
- Confirmation samples from IHSSs
- Samples from White Spaces
  - Industrial Area
  - Buffer Zone

Remediation Approach

- **Traditional approach**
  - **PAMS for IHSSs or groups of IHSSs**
- **New approach**
  - **RSOP with annual Notification Letter for all soil remediation and groundwater decisions. (Excluding non-routine projects such as landfills, 903 Pad, etc.)**
  - **Integrated with D&D**
  - **Real-time integration with sampling**

Subcontracting Strategy

- One Characterization Subcontractor
- Two Remediation Subcontractors
- Maintain Independence between characterization and remediation subcontractors
- Foster competition between remediation subcontractors

Schedule

- IASAP & CRA methodology
  - Submit draft 9/30/00, approved 1/9/01
- BZSAP
  - Start 10/1/00, approved 4/29/01
- ER RSOP
  - Start 10/1/00, approved 9/30/01
- Characterization subcontract
  - Start 10/1/00, award 9/30/01
- Remediation subcontract
  - Start 10/1/00, award 9/30/01

Current Status

- Draft IASAP in regulatory review
- Informal public comment for IASAP initiated in November, 2000
- First IASAP Addendum ready for regulatory review
- Draft ER RSOP Annotated Outline in review

RFCA Stakeholder Focus Group
Attachment B

Title:	Meeting Minutes for January 3, 2001 Focus Group Meeting
Date:	January 12, 2001
Author:	C. Reed Hodgin AlphaTRAC, Inc.
Phone Number:	(303) 428-5670
Email Address:	cbennett@alphatrac.com

RFCA Stakeholder Focus Group
Attachment B

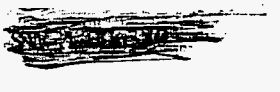
Title:	Meeting Minutes for January 3, 2001 Focus Group Meeting
Date:	January 12, 2001
Author:	C. Reed Hodgin AlphaTRAC, Inc.
Phone Number:	(303) 428-5670
Email Address:	cbennett@alphatrac.com

Please Note: The minutes have been delayed. They will be emailed to those of you who have an address. For those of you who don't have an email address, I will bring copies to the January 17, 2001 meeting.

Sorry for the inconvenience, Christine

RFCA Stakeholder Focus Group
Attachment C

Title:	Answers to the following questions: Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers? Activity 2: Computer Model Evaluation: What topics do you want discussed at the first workshop? Activity 2: What date / time would you like to hold the first workshop?
Date:	December 26, 2000
Author:	Christine Bennett AlphaTRAC, Inc.
Phone Number:	(303) 428-5670
Email Address:	cbennett@alphatrac.com



Appendix A

Jerry Henderson
Rocky Flats Citizen's Advisory Board

Here are some issues on which I would appreciate further clarification from the peer reviewers.

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

Is the NRC rule, which was intended to cover facilities quite different from Rocky Flats (e.g. primarily facilities using radionuclides with short half lives), unequivocally an ARAR?

Is it appropriate to apply ARARs piecemeal?

Do the regulations offer guidance on how to account for catastrophic events?

Has CERCLA cleanup been addressed in federal court? Specifically, is there any judicial precedent in which regulators have been forced to consider exposure scenarios more conservative those deemed to be "reasonably anticipated?"

Activity 2: Computer Model Evaluation: What topics do you want discussed at the first workshop?

How to use Monte Carlo methods in RESRAD?

Is RESRAD as well validated and verified when run in risk mode?

Activity 2: What date / time would you like to hold the first workshop?

Several weeks before the final draft of the task 3 report goes to principals.

Appendix B

LeRoy Moore
Rocky Flats Citizen's Advisory Board

Here are some key issues on Task 1 (Regulatory Analysis) that peer reviewers need to examine:

* CERCLA risk range, EPA 15/85 mrem/y, and NRC 25/100 mrem/y: Do the dose levels proposed by EPA in their withdrawn rule (used in calculating the 1996 RSALs) and those recently adopted by NRC correspond to CERCLA?

* To be assured of compliance with CERCLA, would it be better to begin with the CERCLA risk range (10 -4 to 10 -6) and back calculate to an RSAL that meets the CERCLA risk range?

* ARARS: This aspect of CERCLA comes up because the draft EPA rule for cleanup of DOE sites used in setting the 1996 RSALs has been withdrawn and the recently adopted NRC rule on cleanup and decommissioning NRC sites is being considered by the agencies for setting the Rocky Flats RSALs. Is the NRC rule an ARAR -- that is, does it fit all the points of this provision?

* What does the National Contingency Plan require re. cleanup of CERCLA sites? More specifically, what does it require re. risk?

Activity 2: Computer Model Evaluation: What topics do you want discussed at the first workshop?

* Why did RAC choose the specific RESRAD model they chose and reject the model used by the agencies in 1996?

* What changes to the model RAC used were made by RAC and why? Stated differently, what aspects of the RESRAD program did RAC decide needed to be either replaced by a program of their own making or supplemented in some way and shy? What were the results from these changes and how did they contribute to the eventual outcome in terms of calculated RSALs?

* What changes have been made to RESRAD since the model used by RAC in their analysis? What are the likely effects from using any subsequent or revised program?

* What needs to be done to incorporate ground and surface water into the RESRAD calculation?

* Are there other areas that can be identified where the extant RESRAD programs are not pertinent to what is required to set RSALs for Rocky Flats? If so, what can be done to ensure that identified lacks get covered?

Activity 2: What date / time would you like to hold the first workshop?

Most times in Jan or Feb will work for me; I will not be available Jan 31 till Feb 4.

Appendix C

Noelle Stenger
Rocky Flats Citizen's Advisory Board

Noelle Stenger: This is my own personal opinion:

Regulatory Analysis:
It is difficult to answer this question without a copy of the revised regulatory analysis report, since Tim Rehder states the report will be changed considerably. I believe the Agencies propose to conduct a risk- based assessment and a dose-based assessment simultaneously; will not convert dose to risk; and will apply the ALARA analysis after the RSAL determination has been made to determine whether it is feasible to cleanup to more stringent levels. I interpret this to mean that the RSAL value will be protective within the 1 in 10,000 cancer risk and the 100 mrem dose/year (without institutional controls). The ALARA analysis will then be used to determine whether it is economically feasible to reach the 1 in 1,000,000 cancer risk and/or the 25 mrem maximum dose in a year (without institutional controls). If I am correct, I expect the peer reviewers to examine carefully whether this is acceptable under CERCLA and EPA Headquarters.

Also, I strongly believe that a dose-based only approach does not have a regulatory basis.

Computer Model Evaluation:
I would be interested in a workshop - or documentation from Argonne - regarding the model parameters that were used to create the program. What were their assumptions, especially as they pertain specifically to Rocky Flats?

Schedule:
Flexible.

Appendix D

Gerald DePoorter
Rocky Flats Citizen's Advisory Board

Question 1 - Activity 1 - No questions

Question 2 - Activity 2 Computer Model Evaluation - Topics to be discussed at the first workshop.

At the first workshop I would the agencies to bring to the meeting, preferably in electronic format, i.e., EXCELL Spreadsheet, the following.

1. A list of the the parameters used in RESRAD6.0, the parameter name and symbol, and the current value they are using for that parameter.

2. An explanation of why the values were chosen for the parameters.

Question 3 Activity 3 Date/Time for first workshop.

Early January with the possibility for a full day session for those that are interested. The workshop should be held in Building 60, RFETS.

Appendix E

Shirley Garcia
City of Broomfield

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

Define the process of incorporating ARARs, specifically the NRC rule, into the decision making process for determining clean-up standards for a CERCLA remediation site. If possible, generate a decision tree to include decision points identifying regulatory drivers with the key decision parameters that analyzes the implementation process and the effectiveness of choosing a standard which sets good controls to protect human health and the environment.

Identify any guidance or other documents that may provide support to the decision making process associated with risk vs. dose.

Identify how long-term stewardship relates to the process of selecting a standard that is to be cost-effective and utilizes permanent solutions and/or alternative treatment technologies or resource recovery technologies to determine clean-up standards.

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Review and determine applicability of using dose vs. risk in the model evaluation. Discuss the changes to ICRP and the evaluation process. Hopefully, resolve the issue of when to use dose or risk.

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It would be nice to have the workshop as soon as possible. It may be too late to have a workshop in February, but March would be acceptable to maintain the schedule. It may be to our advantage to have both workshops back to back if the presenters are going to be the same for both workshops. It would save money and keep us on schedule.

I just want to state the scope of the contract needs to clearly define what we want answered.

Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?

- Is the NRC rule, which was intended to cover facilities quite different from Rocky Flats (e.g. primarily facilities using radionuclides with short half lives), unequivocally an ARAR?

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RSAL Peer Review Update and Discussion

KEN SALAZAR
Attorney General

CHRISTINE M. ARGUELLO
Chief Deputy Attorney General

ALAN J. GILBERT
Solicitor General

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OFFICE OF THE ATTORNEY GENERAL

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November 16, 2000

MEMORANDUM

TO: Rocky Flats Focus Group

FROM: Daniel S. Miller
First Assistant Attorney General
Natural Resources & Environment Section
Hazardous and Solid Waste Unit

RE: Response to questions presented at 11/8/00 meeting

Below is my attempt to answer the questions posed at the November 8, 2000 meeting of the Rocky Flats Focus Group.

Q: What is the distinction between applicable, relevant and appropriate?

A: First, a bit of background. In enacting CERCLA, Congress did not create an entirely new set of regulatory requirements to govern cleanup standards. Instead, Congress took a two-pronged approach to setting cleanup standards. It (1) established a general statutory standard that all CERCLA cleanups must meet, and (2) directed EPA to look to other existing environmental laws for specific cleanup standards.

Under the general statutory standard, all remedies must:

- protect human health and the environment;
- be cost-effective; and
- utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

CERCLA § 121(1), 42 U.S.C. § 9621(1). EPA has promulgated regulations defining what risk it considers to be protective of human health and the environment. Under EPA's regulations, CERCLA cleanups are to result in a residual cancer risk of between one in a million and one in

ten thousand (the 10^{-6} to 10^{-4} risk range), and a hazard index of less than 1. EPA uses risk assessment methods to determine whether a remedy will result in a residual risk within this range.

CERCLA's second directive regarding cleanup standards -- that remedies must meet specific standards from other environmental laws -- is the origin of the "ARARs" concept. CERCLA § 121(d)(2) says that remedies which result in contamination remaining onsite must achieve a level or standard of control for such contamination that complies with any "standard, requirement, criteria, or limitation" of any federal or state environmental law that is "legally applicable or relevant and appropriate."[1] EPA may waive the requirement to meet an ARAR, but must justify its decision to do so under one or more criteria set forth in CERCLA. EPA seldom waives ARARs.

So, requirements under environmental laws such as the Clean Air Act, Clean Water Act, RCRA, Endangered Species Act, Toxic Substances Control Act, or Atomic Energy Act may become ARARs at a given CERCLA site. Whether any given requirement under one of these laws becomes an ARAR at a given CERCLA site depends on a number of factors. If the requirement "specifically addresses a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site," it is "applicable." If it does not, it may still be relevant and appropriate if it addresses problems or situations similar to the circumstances of the release or remedial action, and is well-suited to the site. EPA's CERCLA regulations list a number of factors to consider in deciding whether a requirement is relevant and appropriate. These factors require a comparison of:

> (i) The purpose of the requirement and the purpose of the CERCLA action;
> (ii) The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site;
> (iii) The substances regulated by the requirement and the substances found at the CERCLA site;
> (iv) The actions or activities regulated by the requirement and the remedial action contemplated at the CERCLA site;
> (v) Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site;
> (vi) The type of place regulated and the type of place affected by the release or CERCLA action;
> (vii) The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or contemplated by the CERCLA action;
> (viii) Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resource at the CERCLA site.

---

[1] Somehow, EPA came up with the "ARAR" acronym out of that phrase. Perhaps they wanted to avoid confusion between a LARA and ALARA. (A little legal humor.)

Let's use the state's Radiation Control Division regulations as an example. These regulations do not legally apply to DOE facilities because the Atomic Energy Act excludes such facilities from state and NRC regulation. Thus, they are not "applicable" under CERCLA. But they can still be relevant and appropriate. To determine whether they are, we compare the RCD regulations with the CERCLA cleanup at Rocky Flats.

(i) The purpose of the requirement and the purpose of the CERCLA action

The purpose of the RCD regulations is to protect public health and the environment by minimizing or preventing exposure to unsafe levels of radiation. The purpose of cleaning up radioactive contamination at Rocky Flats is to protect public health and the environment by minimizing or preventing exposure to unsafe levels of radiation. This factor weighs in favor of categorizing the RCD regulations as ARARs.

(ii) The medium regulated or affected by the requirement and the medium contaminated or affected at the CERCLA site.

Portions of the RCD regulations apply to radioactively-contaminated soil, groundwater, surface water, and buildings. The cleanup actions at Rocky Flats will address soil, groundwater, surface water, and buildings that have radioactive contamination. This factor weighs in favor of categorizing the RCD regulations as ARARs.

(iii) The substances regulated by the requirement and the substances found at the CERCLA site.

The RCD regulations regulate radioactive materials, including plutonium, americium and uranium. The radioactive contaminants at Rocky Flats include plutonium, americium and uranium. This factor weighs in favor of categorizing the RCD regulations as ARARs.

(iv) The actions or activities regulated by the requirement and the remedial action contemplated at the CERCLA site.

Various provisions of the RCD regulations address decommissioning of facilities with radioactive contamination. Other provisions address disposal of low-level radioactive waste. The cleanup of Rocky Flats involves decommissioning of facilities with radioactive contamination, and may involve on-site disposal of radioactive waste. This factor weighs in favor of categorizing the RCD regulations as ARARs.

(v) Any variances, waivers, or exemptions of the requirement and their availability for the circumstances at the CERCLA site.

Although the RCD regulations exempt DOE facilities, this exemption should not count against their being considered as relevant and appropriate requirements. In the preamble to the National Contingency Plan" ("NCP"), EPA explained that this criteria refers to variances, waivers and exemptions that are based on technical or environmental considerations. The

exemption for DOE facilities is due to the legislative decision decades ago to allow DOE to be self-regulating with respect to Atomic Energy Act requirements. That decision was grounded in concerns for national security, not environmental or technical issues.

(vi) The type of place regulated and the type of place affected by the release or CERCLA action.

The RCD regulations govern any place where radioactive materials are used, and Rocky Flats is a place where such materials were used.

(vii) The type and size of structure or facility regulated and the type and size of structure or facility affected by the release or contemplated by the CERCLA action.

The applicability of RCD regulations is not dependent on the size of the structure or facility in which the radioactive materials are used. As far as the type of structure, the analysis of the preceding criterion applies.

(viii) Any consideration of use or potential use of affected resources in the requirement and the use or potential use of the affected resource at the CERCLA site.

The RCD regulations for decommissioning create a preference for cleanup to a level that is safe for unrestricted use. The regulations do allow for cleanup to restricted use levels if further reductions to comply with unrestricted use criteria would result in net harm to the public or the environment, so long as appropriate institutional controls are imposed, and so long as the cleanup meets ALARA requirements. It is likely that the future uses at the Rocky Flats site will be limited to open space, although limited industrial use of the industrialized portion of the site is possible.

Based on applying these criteria to the cleanup and decommissioning of Rocky Flats, it is clear that the RCD regulations, as a group, are relevant and appropriate requirements under CERCLA. Of course, specific regulations may or may not be relevant to cleanup and decommissioning, so we need to review each regulation individually to determine whether it is an ARAR. And under EPA's regulations, only substantive requirements can be ARARs. Procedural requirements, such as permitting and reporting requirements, are never ARARs.

Q: Is there a hierarchy among relevant, appropriate and relevant?

A: No, once a requirement is determined to be either relevant and appropriate or applicable, the remedy must meet that requirement (unless EPA waives the ARAR). However, as the above example shows, there is more discretion in determining whether a requirement is relevant and appropriate than there is in determining whether it is applicable.

Q: How do the agencies interpret the NRC (and state) decommissioning rule?

A: The text of the rule is attached. (Please note that it refers to license termination and licensees. These parts of the rule are procedural, and under EPA regulations, cannot be an

ARAR. So, ignore the references to licenses and licensees.) Here is how the agencies interpret this rule:

1. Cleanup to levels that allow for unrestricted use are generally preferred to cleanups that result in restricted use. (Please note that at Rocky Flats, use restrictions may nonetheless be required for purposes other than limiting dose.)

2. To be acceptable for unrestricted use, the residual radioactivity levels must be "as low as reasonably achievable ("ALARA")," AND in any case may not exceed 25 millirems per year. Put another way, if it is reasonable to achieve a level of residual contamination that results in a lower does than 25 millirems, then the rule requires the additional cleanup.

3. A site may be cleaned up to less stringent levels that do not allow for unrestricted use only if the person performing the cleanup can demonstrate either (1) that the additional cleanup necessary to achieve a dose that does not exceed 25 millirems per year (assuming unrestricted use) would cause net public or environmental harm, or (2) that the residual levels of contamination associated with restricted use are ALARA.

4. If a site is cleaned up to restricted use levels, residual contamination must be ALARA AND in any case may not exceed 25 millirems per year, assuming the institutional controls are in place, AND may not exceed 100 millirems per year, assuming the institutional controls fail.

5. The NRC rule does provide that alternative decommissioning criteria (i.e., it allows establishment of a number different from 25 mrem/year) may be established for "difficult sites with unique decommissioning problems". Alternative criteria are allowed only in the following circumstances:

    - Residual contamination is reduced to levels that are ALARA.

    - The person seeking the alternative criteria has demonstrated that it is unlikely the TEDE to the average member of the critical group would exceed 100 mrem/yr; and

    - Durable, enforceable institutional controls have been imposed to minimize exposures.

It is important to delineate the difference between a cleanup level as discussed in the NRC (and state) rule and the soil action level that is being developed by the RFCA parties. The soil action level, which will be based on an anticipated land use, is a first step to be applied in developing a an ultimate cleanup level for a particular remedial action. In order to comply with the NRC rule as an ARAR, an analysis would be required using the ALARA concept to determine whether cleanup to unrestricted levels or to levels approaching unrestricted use is practical for a particular remedial action.

Q: Why do agencies appear to reject the unrestricted use precept by not endorsing the third option outlined in the EPA analysis, which would analyze dose in an unanticipated future user scenario (suburban resident)?

A: In an effort to transmit the regulatory analysis paper to the Focus Group in a timely manner, the parties only conducted a cursory review prior to its release. Since then, the parties have had subsequent discussion on the bases and the implications of the options put forth, and agree that the preferred options in the draft paper may not be consistent with the NRC rule. We must conduct an analysis to determine whether cleanup to unrestricted levels is feasible for each remedial site.

Q: How will the agencies decide whether to set a cleanup number based on dose or risk?

A: We will calculate RSALS (note the acronym RSALS rather than the words "cleanup number") using both a dose based and risk based approach, but the decision as to which approach will ultimately be used will be made using the CERCLA process in consultation with the community. As described above in answer to the first question, CERCLA requires that cleanups (a) protect human health and the environment, and (b) meet ARARs. Here, to determine whether the Rocky Flats cleanup protects human health and the environment, we need to perform a risk assessment and select a cleanup number that yields a residual risk within the acceptable range (10^{-6} to 10^{-4}). To determine whether it meets ARARs, including the decommissioning standard discussed above, we need be sure the dose does not exceed the numbers in the decommissioning rule, as well as any other dose-based regulatory requirements that we may find to be relevant and appropriate, AND is ALARA.

Q. The CERCLA risk range covers two orders of magnitude. How does EPA select which part of the risk range the remedy must meet?

A. The more conservative end of the range, 10^{-6}, is the "point of departure." EPA considers the CERCLA balancing criteria (short-term effectiveness; long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; implementability; cost; community acceptance; and state acceptance) in selecting among remedies that are protective and meet (or waive) ARARs. Obviously, cost and implementability are two factors that generally tend to push remedies toward the less stringent end of the risk range. The effect of the other factors may change from one case to another.

Q: Why is EPA Region VIII considering the 25 millirem number, when EPA headquarters appears to disagree with it?

A: The 25 millirem number is the number in the decommissioning rule, which we have agreed is an ARAR. Because it is an ARAR, EPA has to consider it. The EPA policy to which this question refers simply notes that in some instances, for some radionuclides, achieving a residual dose of 25 millirems per year will not yield a residual risk within the CERCLA risk range. In those instances, additional remedial actions to reach the risk range would be necessary.

Q: How will the ALARA analysis be used?

A: ALARA is an alternatives analysis that emphasizes cost-benefit analysis. It resembles the CERCLA remedy selection process in many respects. The Colorado RCD regulations define ALARA as:

> "As low as is reasonably achievable" (ALARA) means making every reasonable effort to maintain exposures to radiation as far below the dose limits in these regulations as is practical, consistent with the purpose for which the licensed or registered activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed or registered sources of radiation in the public interest.

There is no state guidance on how to apply the ALARA concept. The NRC has published draft guidance on demonstrating compliance with the decommissioning rule, including how to conduct an ALARA analysis. In addition, DOE has published draft guidance on how to conduct an ALARA analysis. Guidance documents are not ARARs in the CERCLA process -- the parties may (and will) consider these guidance documents, but we are not bound to follow them. We are currently reviewing these guidance documents.

As described above, the ALARA process is used to determine whether additional cleanup beyond that necessary to meet the dose limits set forth in the decommissioning rule is needed. Once the parties have agreed on how to apply the ALARA process, we will use it in analyzing whether a proposed remedial action yields residual levels of radioactivity that are ALARA for each remedial action.

Q: What is the NRC's interpretation of ALARA?

A: Their interpretation is set forth in the guidance document referred to above titled "Demonstrating Compliance with the Radiological Criteria for License Termination" (Draft Regulatory Guide DG-4006). This document is available on the NRC's website. The URL is http://www.nrc.gov/NRC/RG/04/index.html.

Q: What does CERCLA have to say about ALARA?

A: ALARA is part of the decommissioning standard, which is an ARAR for the cleanup at Rocky Flats, so the decommissioning at Rocky Flats must meet the ALARA requirement.

Q: What is the regulators' and DOE's interpretation of ALARA?

A: We have not determined how to apply the ALARA process yet. We will seek input from the Focus Group, and other appropriate public input, before making a decision.

Q: Is ALARA analysis discretionary?

A: No. As noted above, it is an ARAR for the Rocky Flats cleanup, so we must perform the analysis.

Q: How will the agencies conduct the cost-benefit analysis under ALARA?

A: We don't know yet. We are reviewing the DOE and NRC guidance, both of which address this question. However, we are not bound to follow the guidance. As noted above, we intend to seek public input, including Focus Group input, in making this determination.

Q: How will the agencies define the collective group that receives the benefit in the cost/benefit calculation?

A: Again, we have not resolved this issue, but will seek public input.

Q: If an ALARA analysis is conducted and it shows a net benefit to further cleanup, what happens?

A: The regulators would require the additional cleanup be conducted.

Q: Will further cleanup happen if justified by ALARA analysis, even though the NRC regulation is not enforceable at Rocky Flats?

A: As explained above, even though the NRC/State decommissioning regulation does not apply independently to Rocky Flats, because it is "relevant and appropriate," it becomes an ARAR under CERCLA, and in that way applies to the Rocky Flats cleanup. Thus, an ALARA analysis will be conducted to ascertain if additional cleanup is warranted below the 25 millirem level.

Here is the text of the Colorado decommissioning rule:

> RH 4.61.2 Radiological Criteria For Unrestricted Use.
>
> A site will be considered acceptable for license termination under conditions of unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 0.25 mSv per year (25 mrem/y), including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are ALARA.
>
> RH 4.61.3 Radiological Criteria For Restricted Use.
>
> A site will be considered acceptable for license termination under restricted conditions if: 4.61.3.1 The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of RH 4.61.2 would result in net public or environmental harm or were not being made because the residual levels of contamination associated with restricted conditions are ALARA;
>
> 4.61.3.2 The licensee has made provisions for durable, legally enforceable institutional controls which provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 0.25 mSv per year (25 mrem/y); and
>
> 4.61.3.3 Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is ALARA and would not exceed either: 1 mSv per year (100 mrem/y); or 5 mSvper year (500 mrem/y), provided the licensee demonstrates that further reductions in residual radioactivity necessary to comply with the 1 mSv per year (100 mrem/y) value of this paragraph are not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm.
>
> 4.61.4 Alternate Criteria For License Termination.
>
> 4.61.4.1 The Department may terminate a license using alternate criteria greater than the dose
> criterion of RH 4.61.2 or RH 4.61.3.2, if:

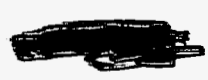
4.61.4.1.1 The licensee has performed an analysis for possible sources of exposure to radiation
which provides assurance that public health and safety would continue to be
protected, and that it is unlikely the TEDE to an average member of the critical
group from all radiation that is distinguishable from background radiation, other than
medical, would be more than 1 mSv per year (100 mrem/y);

4.61.4.1.2 The licensee has employed, to the extent practical, restrictions on site use which
minimize exposures at the site in accordance with the provisions of RH 4.61.3; and

4.61.4.1.3 The licensee has reduced doses to levels which are ALARA.

RFCA Stakeholder Focus Group
Attachment D

Title:	Schedule
Date:	December 27, 2000
Author:	Jeremy Karpatkin DOE
Phone Number:	(303) 966-8392
Email Address:	jeremy.karpatkin@rf.doe.gov



RFCA Focus Group
January 3, 2001 Meeting

DRAFT Actions for January 17, 2001 meeting

1. Formal report on agency feedback regarding Focus Group input

2. Source code for RESRAD 6.0 from Argonne National Laboratories (DOE)

3. Location in RAC report where RESRAD code differences are addressed

4. Issues / questions raised from each meeting listed in the meeting minutes

5. New schedule for RSAL review with changes bolded

Agenda for Next Meeting

1. New Science outline and wind tunnel detail discussion

2. Model workshop objectives and topics

3. Land use scenarios discussion

December 26, 2000

Dear Stakeholder:

The Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group will meet at the Broomfield Municipal Center at One DesCombes Drive on January 3, 2001 from **3:30 to 6:30** p.m. The technical discussion meeting will again be combined with the regular meeting as approved by the Stakeholders at the November 29, 2000 meeting.

The agenda for the January 3, 2001 meeting is enclosed (Attachment A). We will discuss the following topics:

- Radioactive Soil Action Level (RSAL) Schedule Review Update
- RSAL Peer Review Update and Discussion
- New Science Briefing and Discussion
- Industrial Area Sampling and Analysis Plan - Briefing and Discussion

The meeting minutes for the December 13, 2000 meeting are enclosed as Attachment B.

During the December 13, 2000 meeting, Mary Harlow, representing the RSAL Peer Review process group, asked the RFCA Stakeholders to answer the following questions:

- Activity 1: Regulatory Analysis: What questions will we ask the peer reviewers?
- Activity 2: Computer Model Evaluation: What topics do you want discussed at the first workshop?
- Activity 2: What date / time would you like to hold the first workshop?

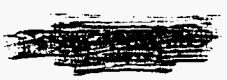
The Stakeholders' answers to these questions are provided in Attachment C.

Attachment D presents the latest RSAL Review Schedule.

If you need additional information to prepare you for the Focus Group discussion on January 3, 2001, please contact Christine Bennett of AlphaTRAC, Inc. at 303 428-5670 (cbennett@ alphatrac.com). Christine will help to find the appropriate resource for you.

You may call either Christine or me if you have any questions, comments, or suggestions concerning the RFCA Stakeholder Focus Group or the upcoming meeting.

Sincerely,



C. Reed Hodgin, CCM
Facilitator / Process Manager

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